US009155370B2

(12) **United States Patent**
Pena

(10) **Patent No.: US 9,155,370 B2**
(45) **Date of Patent: *Oct. 13, 2015**

(54) **FASTENING DEVICE**

(76) Inventor: **Rolando J. Pena**, Skillman, NJ (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1122 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **12/550,513**

(22) Filed: **Aug. 31, 2009**

(65) **Prior Publication Data**

US 2009/0320870 A1 Dec. 31, 2009

Related U.S. Application Data

(63) Continuation of application No. 11/084,053, filed on Mar. 18, 2005, now Pat. No. 7,581,547.

(60) Provisional application No. 60/563,653, filed on Apr. 20, 2004.

(51) **Int. Cl.**
A45D 8/34 (2006.01)
A45D 8/00 (2006.01)

(52) **U.S. Cl.**
CPC .. ***A45D 8/34*** (2013.01); ***A45D 8/00*** (2013.01); *A45D 2008/345* (2013.01)

(58) **Field of Classification Search**
CPC A45D 8/00; A45D 8/34; A45D 2008/345
USPC 132/275–279; 54/78
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

385,721	A		7/1888	Muntz
971,519	A		10/1910	Brannen
D52,258	S		8/1918	Upton
1,288,939	A	*	12/1918	Lichtenstein 2/308
1,338,858	A	*	5/1920	De Los S Enriquez 2/308
2,560,267	A		7/1951	Baker et al.
2,649,097	A		8/1953	Chernack
2,796,069	A		6/1957	Mooney, Jr.
3,000,384	A		9/1961	Piers, Jr.
3,542,041	A		11/1970	Mercorella
3,604,145	A		9/1971	Zimmerman
4,785,834	A		11/1988	Gonzalez
4,892,110	A		1/1990	Harvie
4,972,660	A	*	11/1990	Black 54/78
5,025,613	A	*	6/1991	Connors 54/78
5,056,538	A		10/1991	Matula
5,293,884	A		3/1994	Chapman et al.

(Continued)

OTHER PUBLICATIONS

"Smokey Mountain Trading—Biker Patches," Jun. 2002, product description from http:/www.smokeymountaintrading.com (3 pages).

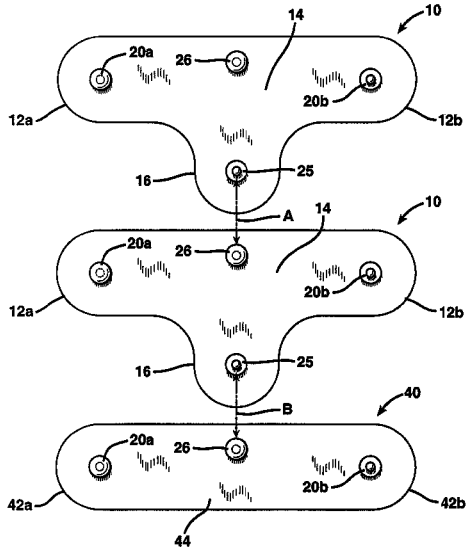
(Continued)

Primary Examiner — Robyn Doan
(74) *Attorney, Agent, or Firm* — McCarter & English, LLP

(57) **ABSTRACT**

A fastening device that is adjustable in length and diameter and which is visually attractive is provided. The device can be easily positioned about a wearer's hair and fastened thereabout, and is resistant to creeping down a hair bundle. The device comprises a body component having first and second ends with end connectors thereon for connecting the first and second ends together to form a cylindrical shape that can be positioned about a hair bundle. A plurality of body components can be connected to each other to form a hair fastening device of a desired length. An end component can be attached to the body component, and can optionally be adjusted in diameter.

20 Claims, 9 Drawing Sheets



(56) **References Cited**

U.S. PATENT DOCUMENTS

D353,226	S	12/1994	Nahoum	
5,465,741	A	11/1995	Dvorak	
5,472,003	A	12/1995	Frame et al.	
D372,338	S	7/1996	Engel et al.	
5,555,901	A	9/1996	Camp, Jr. et al.	
5,590,668	A	1/1997	Macy	
5,727,575	A	3/1998	Rontal	
5,730,161	A	3/1998	Kohanek	
5,878,756	A	3/1999	Bilodeau	
5,901,713	A	5/1999	Mroczek	
5,927,297	A	7/1999	Cooper	
6,041,792	A	3/2000	Kennedy	
6,142,159	A	11/2000	Lloyd	
6,260,555	B1	7/2001	Natvig	
6,401,255	B1	6/2002	Douglas	
6,425,405	B1	7/2002	McRoberts	
6,439,242	B1	8/2002	Head et al.	
D509,625	S	9/2005	Pena	
D594,598	S	6/2009	Pena	
7,581,547	B2 *	9/2009	Pena	132/275

OTHER PUBLICATIONS

"Tail Tuxedos," Mar. 2001, product description and instructions from http://www.tailtuxedos.com (6 pages).

"Tail Tamer Products," 1996, product description from http://tailtamer.com (3 pages).

"Hair Glove," 2002, product description and frequently asked questions from http://www.hairglovesport.com (5 pages).

Eurosport, Oct. 2002, p. 54, "The Hair Glove" ponytail holder from http://www.soccer.com (1 page).

Notice of Allowance dated Jul. 1, 2004, from U.S. Pat. No. D509,625 (12 pages).

Supplemental Notice of Allowability dated Mar. 4, 2005, from U.S. Pat. No. D509,625 (7 pages).

Office Action dated Apr. 6, 2007, from U.S. Pat. No. D594,598 (11 pages).

Office Action dated Jul. 16, 2007, from U.S. Pat. No. D594,598 (12 pages).

Office Action dated May 13, 2008, from U.S. Pat. No. D594,598 (10 pages).

Notice of Allowance dated May 21, 2009, from U.S. Pat. No. 7,581,547 (8 pages).

Office Action dated Aug. 12, 2008, from U.S. Pat. No. 7,581,547 (9 pages).

Office Action dated Nov. 21, 2007, from U.S. Pat. No. 7,581,547 (8 pages).

Notice of Allowance dated Sep. 14, 2007, from U.S. Pat. No. 7,581,547 (10 pages).

Office Action dated Mar. 12, 2007, from U.S. Pat. No. 7,581,547 (10 pages).

* cited by examiner

FIG. 1

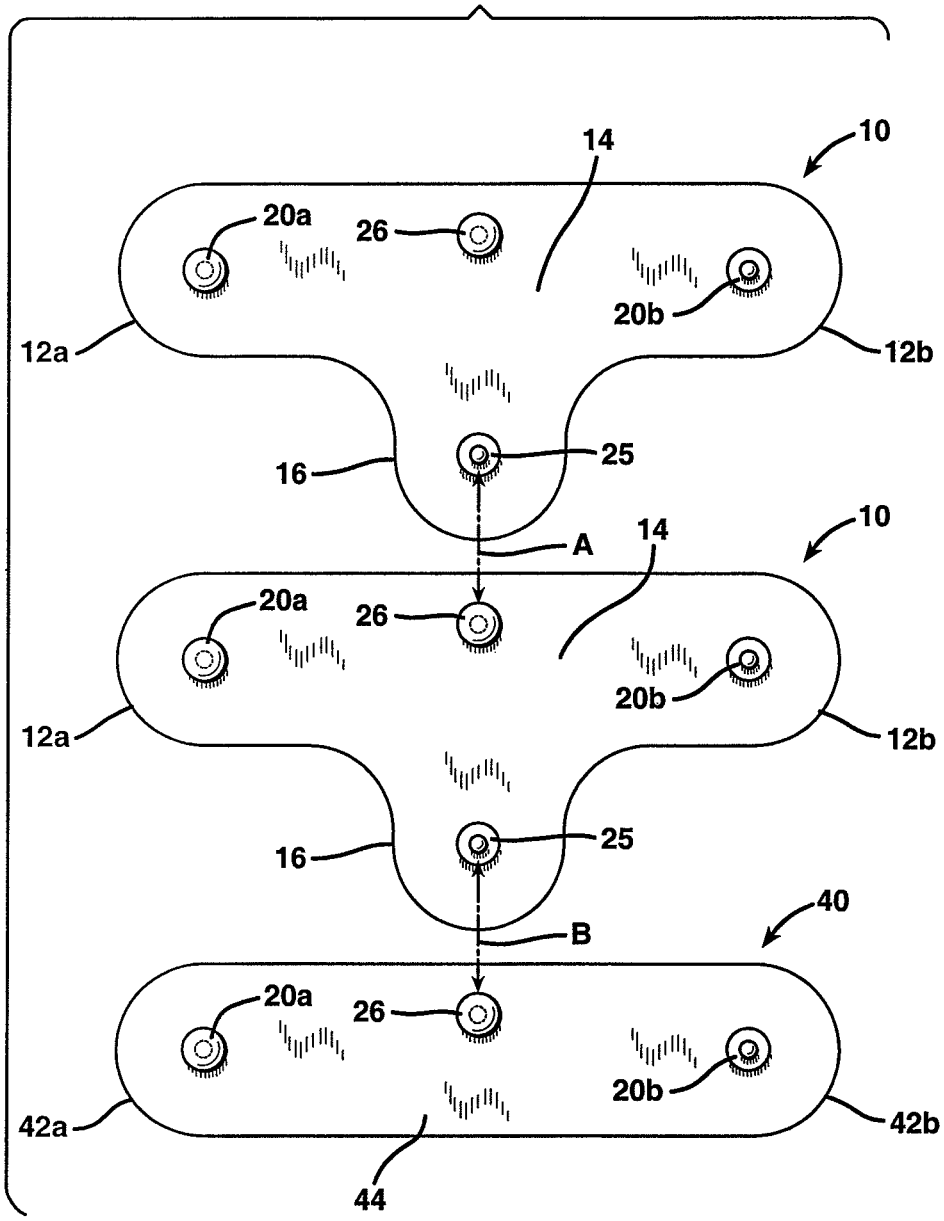

14
10
20a
26
20b
12a
12b
16
25
A
14
10
20a
26
20b
12a
12b
16
25
40
B
20a
26
20b
42a
42b
44

FIG. 2

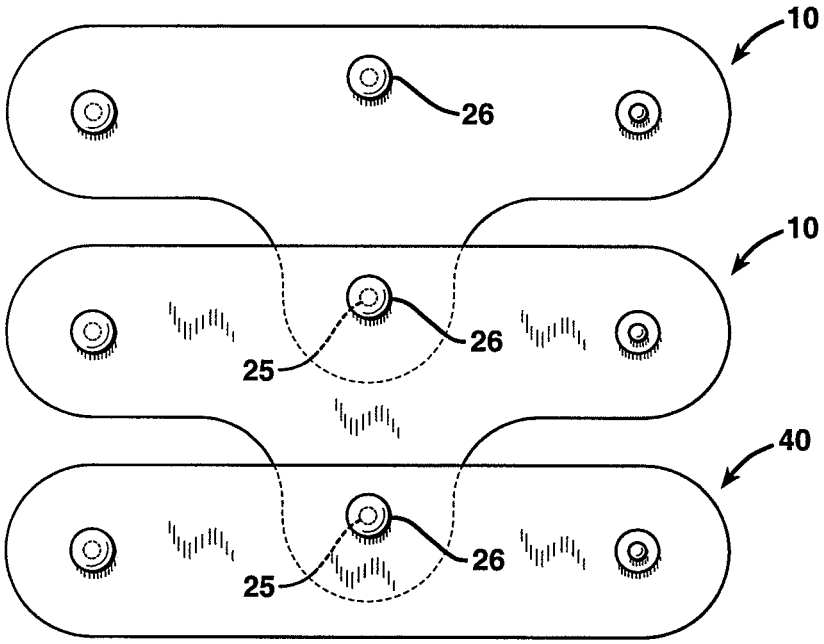


FIG. 3A

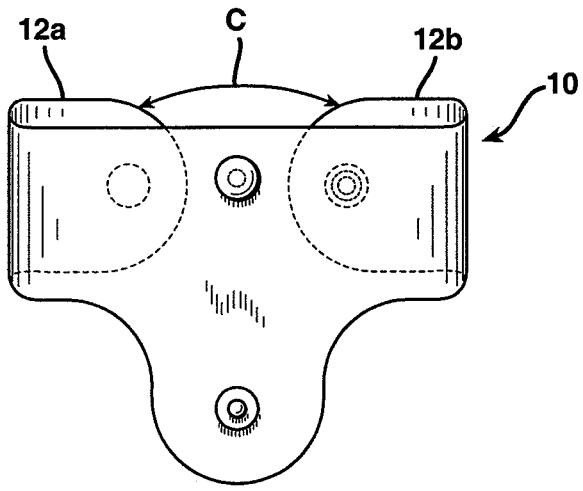


FIG. 3B

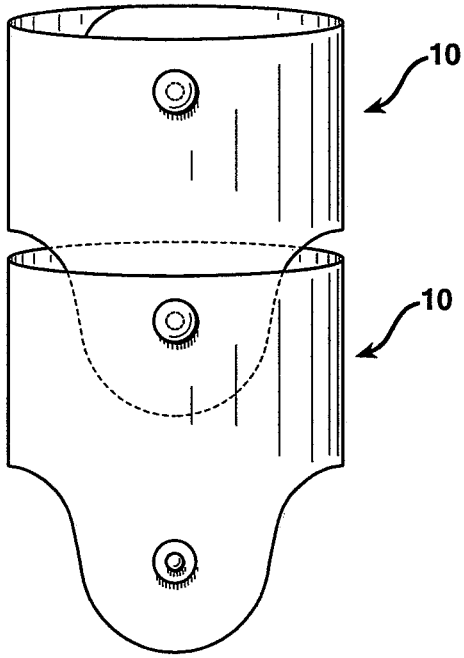


FIG. 4A

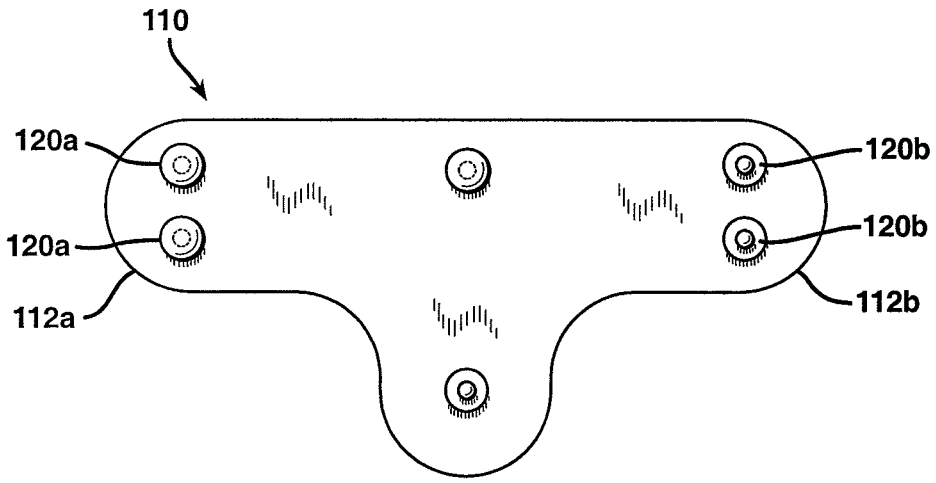

110
120a
120a
112a
120b
120b
112b

FIG. 4B

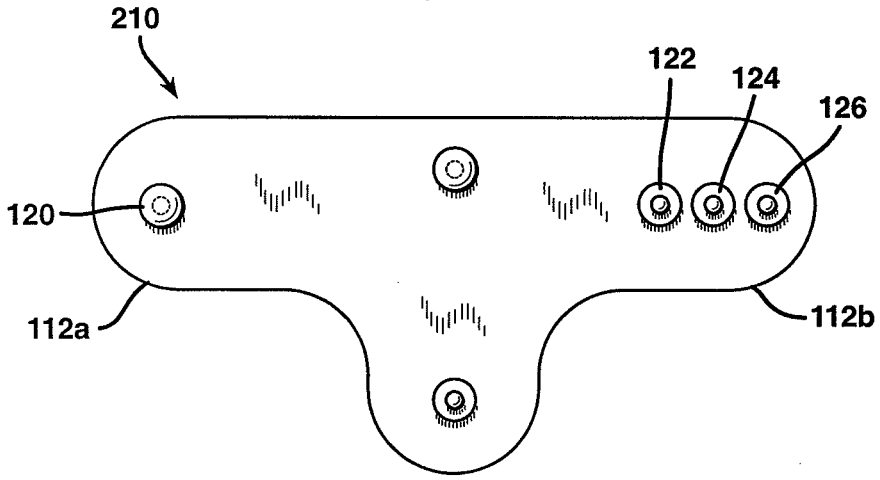

210
122
124
126
120
112a
112b

FIG. 5

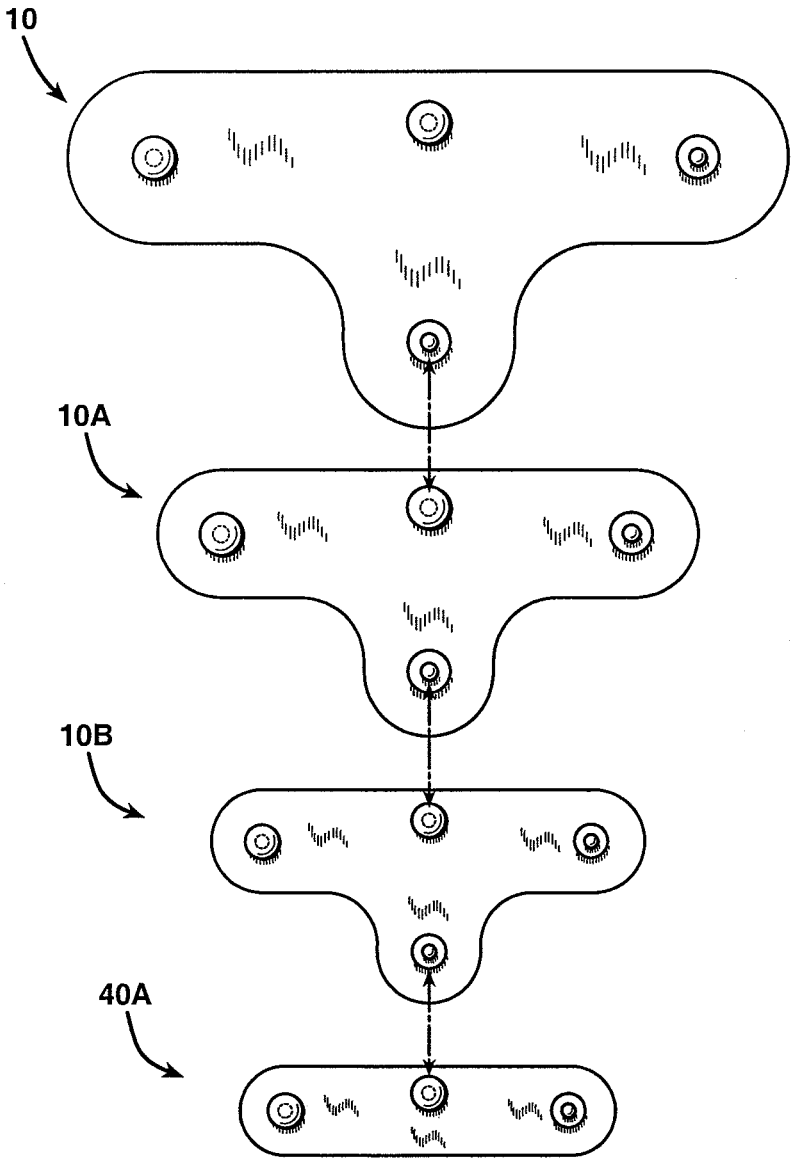


FIG. 6

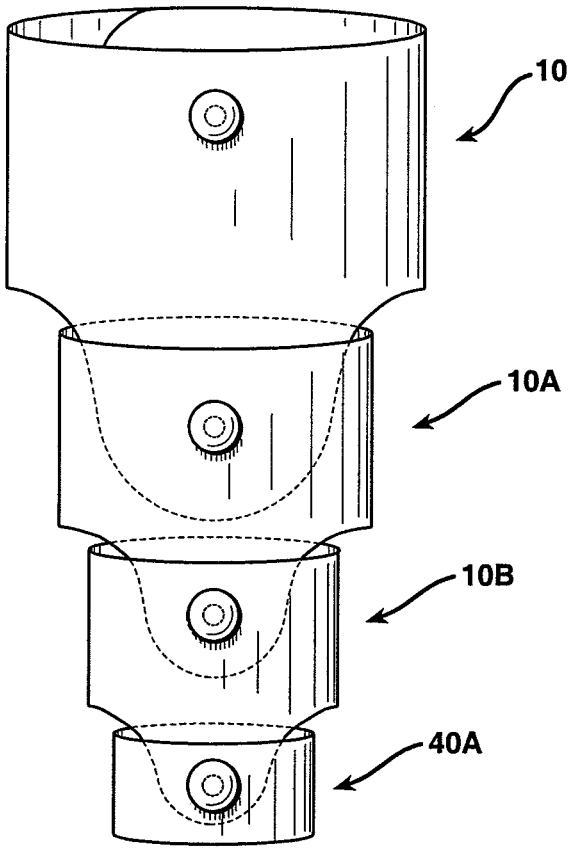


FIG. 7

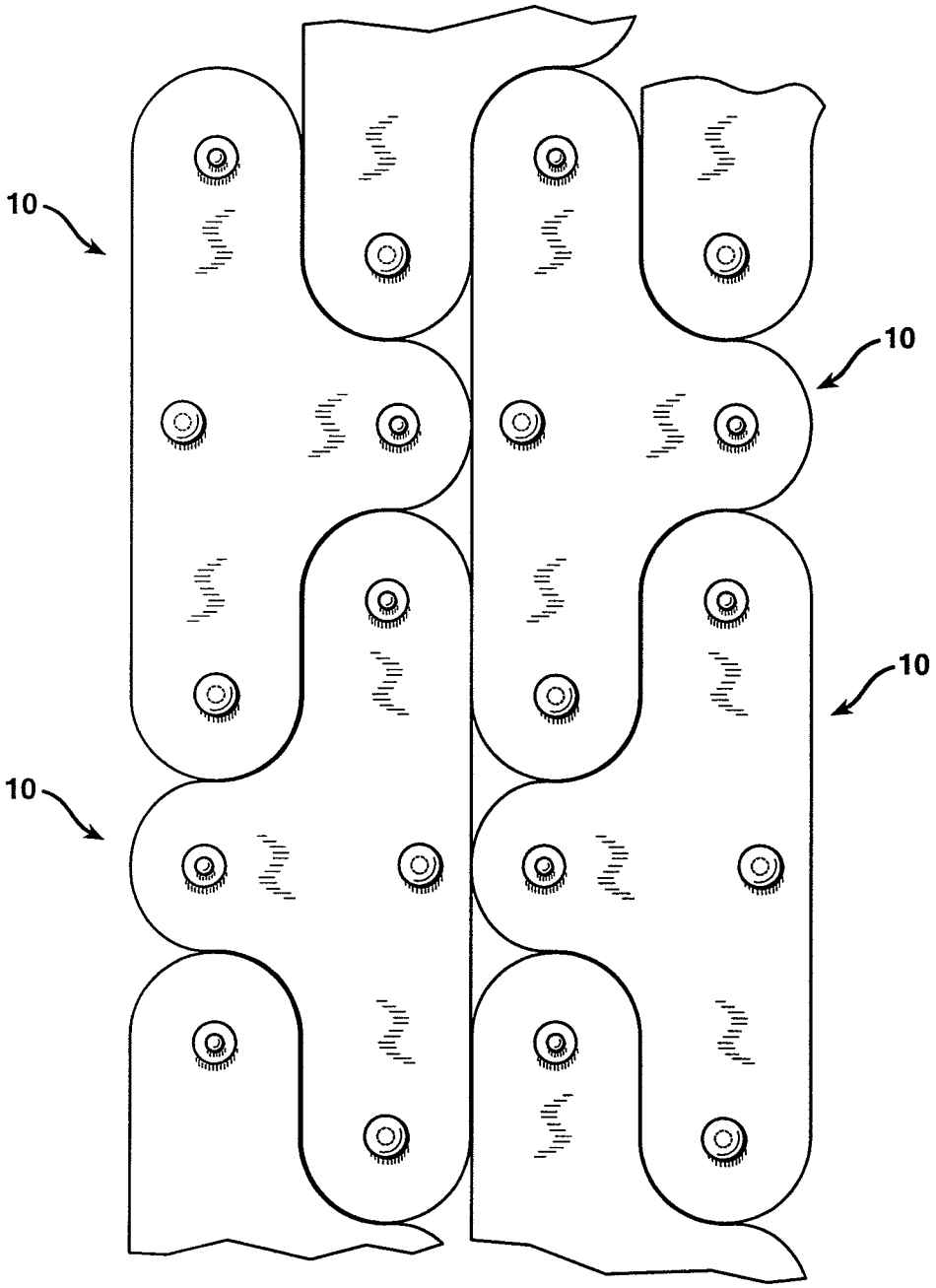


FIG. 8

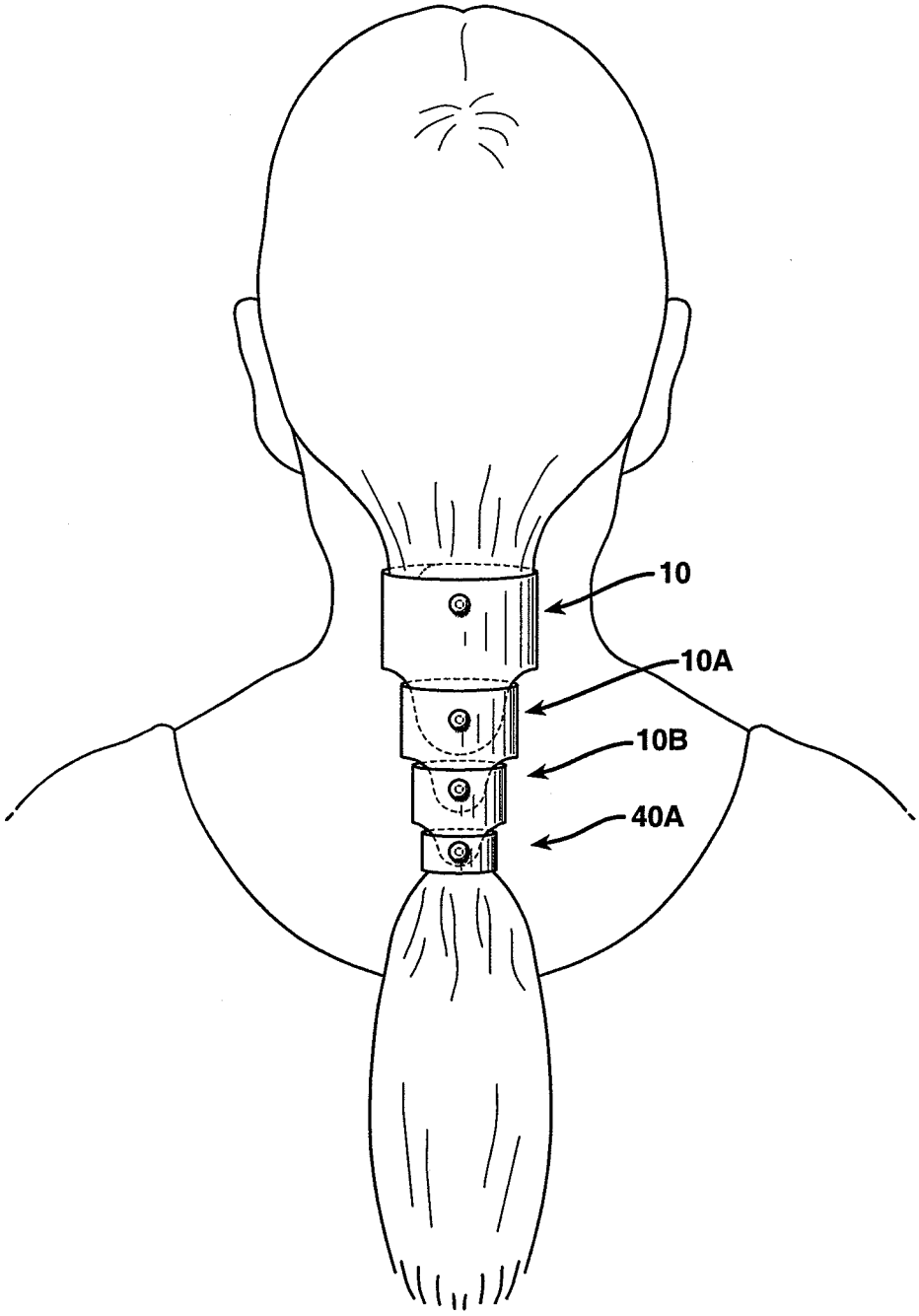
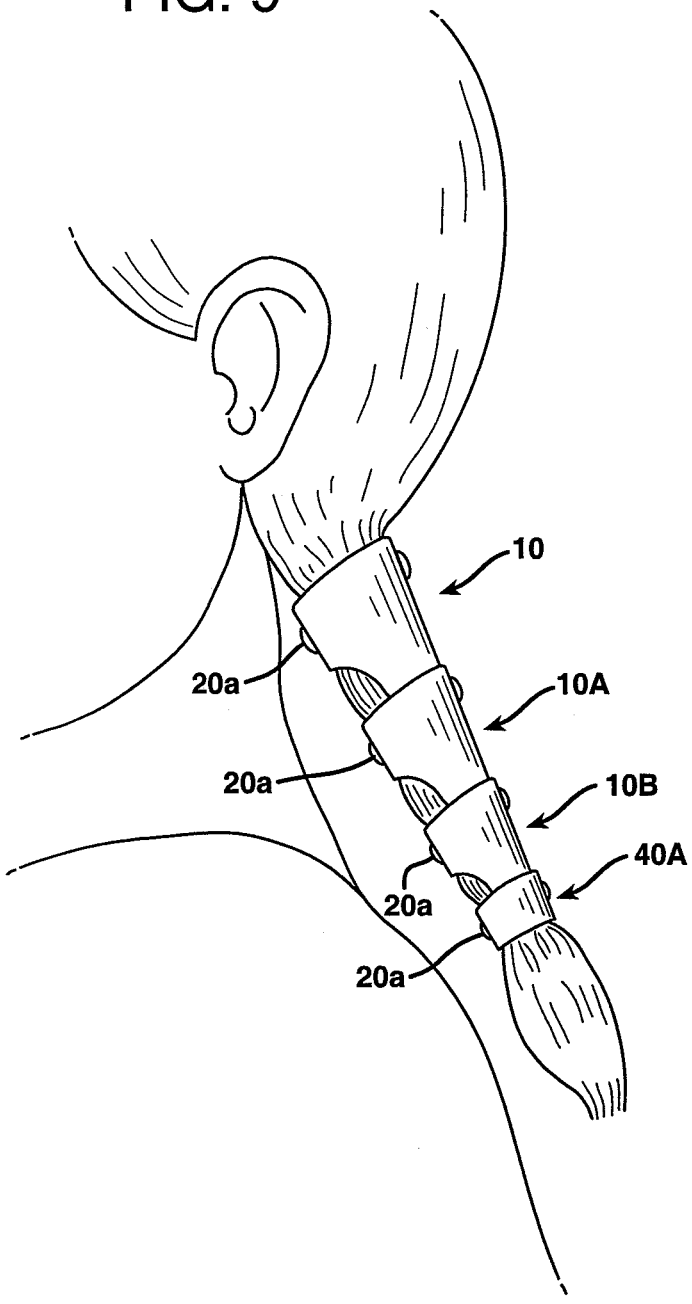


FIG. 9



FASTENING DEVICE

RELATED APPLICATIONS

This application is a continuation of U.S. patent application Ser. No. 11/084,053, filed Mar. 18, 2005, now U.S. Pat. No. 7,581,547, which claims the benefit of U.S. Provisional Application Ser. No. 60/563,653 filed Apr. 20, 2004, the entire disclosures of which are expressly incorporated herein by reference.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a fastening device. More specifically, the present invention relates to a fastening device for fastening and maintaining a bundle of, for example, hair.

2. Related Art

Fastening devices for holding a bundle of strands or the like are well known in the art. Examples of hair fastening devices include barrettes, pins, clips, claws, and combs, which are positioned onto a wearer's hair to retain the hair in a desired configuration. Another example of a hair fastener is the so-called "scrunchee" which is formed of a stretchable material and can be wrapped about a bundle of hair. Further, scrunchees and barrettes are often used to retain the wearer's hair in a ponytail.

A particular problem with existing hair fastening devices is that most are not adjustable in length and cannot easily accommodate varying hair lengths. Further, existing devices often have a uniform shape and/or diameter, even though the thickness of a wearer's ponytail decreases as it extends away from the head. Such uniform diameter, coupled with the rigidity of the prior devices, causes the devices to creep down the ponytail and to eventually fall off.

Accordingly, what would be desirable, but has not yet been provided, is a fastening device that is adjustable in length and diameter, and particularly, a hair fastening device that is visually attractive, can be easily positioned about a wearer's hair and fastened thereabout, and is resistant to creeping down a bundle of hair.

SUMMARY OF THE INVENTION

The present invention relates to a fastening device that is adjustable in length and diameter, and more specifically to a hair fastening device that is visually attractive, can be easily positioned about a wearer's hair and fastened thereabout, and is resistant to creeping down a bundle of hair. The device comprises a body component having first and second ends with end connectors thereon for joining the first and second ends together to form a cylindrical shape that can be positioned about a bundle of hair. Component connectors can be provided between the first and second ends to allow additional body components to be attached thereto. A plurality of body components can be connected to each other to form a hair fastening device of a desired length. Optionally, an end component can be provided, the end component including first and second ends with end connectors thereon for connecting the ends together to form a cylindrical shape about a bundle of hair, and a component connector between the first and second ends for attaching the end component to a body component. Optionally, the body component can be adjusted in diameter to accommodate bundles of hair of various sizes. Likewise, optionally, the end component can be adjusted in diameter to accommodate bundles of hair of various sizes.

In an embodiment of the present invention, a hair fastening device is provided and includes a plurality of body components having successively decreasing diameters. Each of the body components include first and second ends with end connectors thereon for joining the first and second ends together to form a cylindrical shape about a bundle of hair. Component connectors on each body component allow any desired number of body components to be connected together to form a device of a desired length. The successively decreasing diameters of the body components prevent the hair fastening device from creeping down the wearer's hair. Optionally, an end component can be provided having first and second ends with end connectors thereon for connecting the ends together to form a cylindrical shape about a bundle of hair, and a component connector between the first and second ends for attaching the end component to a body component.

The present invention further provides a method of fastening strands into a bundle. The method for fastening hair into a bundle includes the steps of providing a body component, placing the first body component in contact with a hair bundle, and attaching first and second ends of the first body component together to form a cylinder which surrounds the hair bundle. The method may further include the step of attaching an end component to a body component, positioning an end component in contact with a hair bundle, and attaching the ends of the end component together about a hair bundle.

The present invention also provides a method of fastening hair into a bundle including the steps of providing a plurality of body components, connecting the plurality of body components together to form a hair fastening device of a desired length, placing the hair fastening device in contact with a bundle of hair, and connecting together ends of each of the plurality of body components to form cylinders which surround the hair bundle. Optionally, the method may include the step of attaching an end component to the last body component and connecting ends of the end component to form a cylinder around the hair bundle.

The present invention can be applied to bundle objects other than hair, such as cables, wires, cords, and the like, using one or more body components and, optionally, an end component. Additionally, the present invention can be used to cover or conceal an object, such as a pipe, tube, or other similar object. Any desired number of components can be interconnected to accommodate a desired length, and the components positioned about the object and ends of the components fastened together to conceal the object.

BRIEF DESCRIPTION OF THE DRAWINGS

Other important objects and features of the invention will be apparent from the following Detailed Description of the Invention taken in connection with the accompanying drawings in which:

FIG. **1** shows components of the hair fastening device of the present invention.

FIG. **2** shows the components of FIG. **1** attached together.

FIG. **3**A shows the ends of a component of FIG. **1** partially formed into a cylinder; FIG. **3**B shows two components of FIG. **1** attached together and formed into a cylinder.

FIGS. **4**A and **4**B show alternate embodiments of the components shown in FIG. **1**.

FIG. **5** shows the components of a hair fastening device.

FIG. **6** shows the components of FIG. **5** attached together and formed into cylinders.

FIG. **7** shows the components of a device of the present invention laid out on a sheet.

FIG. **8** shows the hair fastener device of the present invention in use.

FIG. **9** is a side view of the hair fastener device shown in FIG. **8**.

DETAILED DESCRIPTION OF THE INVENTION

The present invention relates to a fastening device that is adjustable in length and diameter, and more specifically to a hair fastening device that is visually attractive, can be easily positioned about a wearer's hair and fastened thereabout, and is resistant to creeping down a hair bundle. The device comprises a body component having first and second ends with end connectors thereon for connecting the first and second ends together to form a cylindrical shape that can be positioned about a hair bundle. Component connectors can be provided between the first and second ends to allow additional body components to be attached thereto. A plurality of body components can be connected to each other to form a hair fastening device of a desired length. Optionally, the plurality of body components can have successively smaller diameters to prevent the hair fastening device from creeping down a hair bundle. An end component can be provided, including first and second ends with end connectors thereon for connecting the ends together to form a cylindrical shape about a bundle of hair, and a component connector between the first and second ends for attaching the end component to a body component. Optionally, the body component can be adjusted in diameter to accommodate bundles of hair of various sizes. Likewise, optionally, the end component can be adjusted in diameter to accommodate bundles of hair of various sizes.

FIG. **1** shows the hair fastening device of the present invention. The hair fastening device includes two body components, indicated generally at **10**, and an end component, indicated generally at **40**. Each of the body components **10** include first and second ends **12***a*, **12***b*, intermediate portions **14** between the ends **12***a*, **12***b*, and tabs **16** depending from the intermediate portions **14**. End connectors **20***a*, **20***b* are provided on the ends **12***a*, **12***b*, respectively, of the body components **10**, and allow the ends **12***a*, **12***b* to be connected together so that the body components **10** form a cylindrical shape about a wearer's hair. The words fasteners, attachments, connectors, and the like used herein are meant to describe any known or hereafter developed attachments and connectors. Similarly, it should be understood that such components, fasteners, attachments, and the like could comprise male and female connectors. For example, the end connectors **20***a*, **20***b* could be complementary male and female connectors of a snap or other connector, or alternatively, could be any other suitable connector such as a hook, button, hook-and-loop type fastener, etc.

Each of the body components **10** include component connectors **25**, **26** for allowing any desired number of body components to be joined together to form a hair fastening device of a desired length. Similar to the end connectors **20***a*, **20***b*, the component connectors **25**, **26** could comprise snaps, hooks, buttons, hook-and-loop type fasteners, or any other suitable connectors for joining the body components **10** together. Preferably, the component connectors **25**, **26** are complementary male and female connectors forming a snap, and are attached to each body component **10** along a substantially vertical axis extending along an intermediate portion **14** of each body component **10**. A male connector could be provided on one component, and a female connector could be provided on another component, and vice versa. As shown by arrow A, first and second body components **10** can be joined together by mating component connector **25** on tab **16** of a first body component with component connector **26** on intermediate portion **14** if a second body component. Any suitable number of successive body components can be connected together in this fashion to form a hair fastening device of a desired length. Preferably, the connections formed between the attached components allow the body components to pivot from side to side with respect to each other. This allows the entire device to bend and/or move more naturally with movement of the wearer's hair.

Optionally, an end component **40** can be provided and attached to a body component **10**. The end component **40** includes first and second ends **42***a* and **42***b*, and an intermediate portion **44** therebetween. End connectors **20***a*, **20***b* are provided on the ends **42***a*, **42***b* of end component **40**. By interconnecting end connectors **20***a* and **20***b*, the ends **42***a*, **42***b* of the end component can be joined together to form the end component into a cylinder for extending about a bundle of hair. The end connectors **20***a*, **20***b* could be complementary male and female connectors of a snap, or alternatively, could be any suitable connector such as a hook, button, and hook-and-loop type fastener. The end component **40** also includes a component connector **26** for connecting with component connector **25** of body component **10**, as shown by arrow B. As with the body components **10**, the end component **40** can also swivel from side to side.

The body and end components **10** and **40** of the hair fastening device of the present invention can be manufactured of any suitable flexible or semi-rigid material. Examples of such materials include, but are not limited to, leather, imitation leather, denim, neoprene and plastic. Further, the inner surfaces of the body and end components **10** and **40** can include a high-friction material, such as a gel material, to allow the entire hair fastening device to grip a wearer's hair. This further prevents the hair fastening device from creeping down a wearer's hair during use.

FIG. **2** shows the components of the hair fastening device of FIG. **1** connected together. Body components **10** are attached together by component connectors **25** and **26**. Likewise, end component **40** is attached to a body component **10** by component connectors **25** and **26**. The connections formed by connectors **25**, **26** allow the components to swivel with respect to each other, so that the hair fastening device can accommodate movement of a wearer's hair. It should be noted that the connectors **25** and **26** could even be made permanent, using a rivet or the like, if desired. If a rivet or other similar permanent connection is utilized, preferably such connection also allows the components to swivel.

As shown in FIG. **3**A, when the ends **12***a* and **12***b* of body component **10** are brought together about a bundle of hair in the general direction indicated by arrow C, and are attached to each other, the body component **10** forms a cylindrical shape. As shown in FIG. **3**B, successive body components **10** can be connected together, and the cylindrical shape extended for any desired length.

FIGS. **4**A and **4**B show alternate embodiments of the present invention, wherein a number of end connectors are provided on the ends of the body components. FIG. **4**A shows a body component **110** having two end connectors **120***a* on a first end **112***a*, and two complementary end connectors **120***b* on an opposite end **112***b*. Such an arrangement provides a more secure attachment of the ends **112***a* and **112***b* about a hair bundle, which is especially advantageous for thick hair. Additionally, as shown in FIG. **4**B, a single end connector **120** could be provided on a first end **112***a*, and a number of complementary end connectors **122**, **124**, and **126** could be provided on opposite end **112***b* to allow for various diameters

when the end connector **120** is mated with any of the end connectors **122**, **124**, and **126**. Such an arrangement can accommodate hair bundles of varying thicknesses, as well as different thickness along the length of the bundle.

FIG. **5** shows the hair fastening device of the present invention, wherein a plurality of body components of successively decreasing size are provided. As shown therein, each of the body components **10**, **10***a*, and **10***b* are successively smaller in size, and the end component **40** is smaller than the body component **10***b*. The body components and end component can be connected together in the manner described herein. The configuration shown in FIG. **5** allows the hair fastening device of the invention to accommodate a hair bundle of decreasing thickness as the bundle extends away from the head. Further, the successively decreasing sizes of the components prevent the device from creeping down a bundle of hair when in use.

As shown in FIG. **6**, after the components of FIG. **5** have been attached together, they can be formed into cylinders of successively smaller diameters about a bundle of hair. As mentioned earlier, any desired number of components can be utilized to provide a hair fastening device of any length.

The components of the hair fastening device of the invention may be conveniently manufactured from a single sheet of material, to minimize manufacturing waste. The layout for such a sheet is shown in FIG. **7**. Each of the components **10** can be cut from the sheet using any suitable cutting process. The connectors shown in FIG. **7** could be attached to the sheet prior to cutting out individual components **10**.

FIGS. **8** and **9** show the hair fastening device of the invention in position on a wearer's ponytail. Three body components **10**, **10***a*, and **10***b*, and one end component **40***a*, are shown interconnected together and formed into cylinders about the ponytail. The components have successively smaller sizes along the length of the ponytail, thereby preventing the device from creeping down the ponytail during use. Any desired number of components can be provided. As shown in FIG. **9**, the attachments **20***a* of the components **10**, **10***a*, **10***b*, and **40***a* are visible.

The present invention can be used for applications other than bundling hair. For example, the present invention could be used to bundle cables, wires, cords, or other similar objects, using one or more of the body components and, optionally, an end component. Further, the present invention could be used for covering or concealing a pipe, tube, and other object, wherein any desired number of body components can be interconnected together to accommodate a desired length, and the components positioned about the object and ends of the components connected together to conceal the object.

Having thus described the invention in detail, it is to be understood that the foregoing description is not intended to limit the spirit and scope thereof. What is desired to be protected by Letters Patent is set forth in the appended claims.

What is claimed is:

1. A hair fastening device comprising:

a body component having first and second ends and a tab extending downwardly from and formed integrally in one piece with the body component;

end connectors on the first and second ends for connecting the ends together to form the body component into a cylindrical shape about a bundle of hair;

a component connector on the tab of the body component for attaching an additional component to the body component; and

another body component connected to the body component, where the body components swivel with respect to each other.

2. The hair fastening device of claim **1**, further comprising a second component connector positioned on the body component intermediate the end connectors on the body component.

3. The hair fastening device of claim **1**, further comprising an end component connected to the body component.

4. The hair fastening device of claim **3**, wherein the end component comprises a component connector for connecting the end component to the body component.

5. The hair fastening device of claim **4**, wherein the component connector is positioned on an intermediate portion of the end component.

6. The hair fastening device of claim **4**, wherein the end component comprises end connectors on first and second ends of the end component for connecting the ends together to form a cylindrical shape about a bundle of hair.

7. The hair fastening device of claim **4**, wherein the end component swivels with respect to the body component.

8. The hair fastening device of claim **3**, wherein the end component further comprises a plurality of end connectors for adjusting the diameter of the end component.

9. The hair fastening device of claim **1**, wherein the body component further comprises a plurality of end connectors for adjusting the diameter of the body component.

10. A hair fastening device comprising:

a plurality of interconnected body components formable into cylinders and positionable about a bundle of hair, each of the plurality of body components including a tab extending downwardly from and formed integrally in one piece with a body component, each tab including a component connector for interconnecting each of the plurality of body components;

an end component connected to one of the plurality of body components, the end component formable into a cylinder and positionable about a bundle of hair; and

second component connectors positioned intermediate of the end connectors on the body components, wherein the component connectors allow each of the plurality of body components to swivel with respect to each other.

11. The device of claim **10**, wherein each of the plurality of body components further comprises first and second ends having end connectors thereon for attaching the first and second ends together to form cylinders.

12. The device of claim **10**, wherein the end component further comprises first and second ends having end connectors thereon for attaching the first and second ends together to form cylinders.

13. The device of claim **10**, further comprising a second component connector between the end component and one of the plurality of body components.

14. The device of claim **13**, wherein the component connectors allow the end component to swivel with respect to one of the plurality of body components.

15. The device of claim **10**, wherein each of the plurality of body components and the end component are adjustable in diameter.

16. The device of claim **10**, wherein the plurality of body components have successively smaller sizes.

17. The device of claim **16**, wherein the end component is smaller than the plurality of body components.

18. A method of fastening hair into a bundle comprising:

providing a body component having first and second ends with end connectors thereon, a tab extending downwardly from and formed integrally with the body com-

ponent, and a component connector on the tab for attaching an additional component to the body component;

placing the body component in contact with a bundle of hair; and

attaching the end connectors of the first and second ends of the body component together to form a cylinder about the bundle of hair.

19. The method of claim **18**, further comprising:

providing an intermediate component having first and second ends with end connectors thereon;

placing the intermediate component in contact with the bundle of hair;

attaching the intermediate component to the component connector on the tab of the body connector; and

attaching the first and second ends of intermediate component together to form a second cylinder about the bundle of hair.

20. The method of claim **19**, further comprising:

providing an end component having first and second ends with end connectors thereon;

placing the end component in contact with the bundle of hair;

attaching the end component to the intermediate component; and

attaching the first and second ends of the end component together to form an end cylinder about the bundle of hair.

* * * * *